AMIGA

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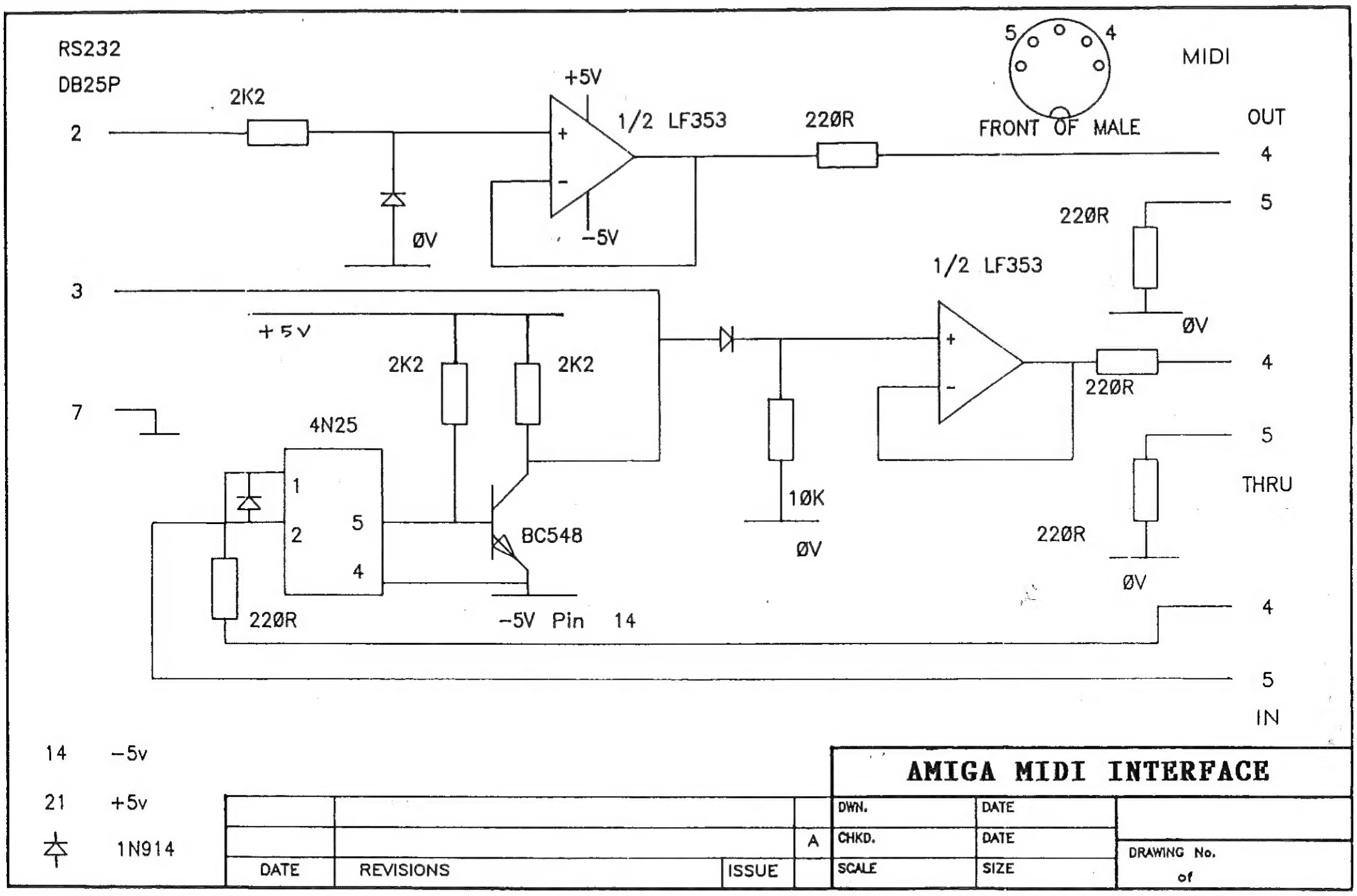

Note the change of date and venue
See back cover for more details

Next Meeting

Saturday, December 12th, 1987 at 2pm

AUG meetings are held in the Rotunda at Monash University
Wellington Road, Clayton Melways map 70 reference F10 and map 84A

Amiga Users Group Inc, PO Box 48, Boronia, 3155, Victoria, Australia

Australia's Largest Independent Association of Amiga Owners
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AMIGA™ Users Group

Who Are We?

The Amiga Users Group is a non-profit association of people interested in the Amiga computer and related topics. With almost 800 members, we are the largest independent association of Amiga users in Australia.

Club Meetings

Club meetings are held at 2pm on the second Saturday of each month in the Rotunda at Monash University, Wellington Road, Clayton. Details on how to get there are on the back cover of this newsletter. The dates of upcoming meetings are:

Saturday, December 12th at 2pm

Production Credits

This month's newsletter was edited by Peter Jetson. Equipment and software used was: TurboDOS S-100 computer, Brother HR-40 printer, Gemini 10x printer, Wordstar, Fancy Font and Grabbit.

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Contributions

Articles, papers, letters, drawings and cartoons are actively sought for publication in Amiga Workbench. Please submit your contributions on disk, since that means they don't have to be re-typed! All disks will be returned! Please save your article in **text-only** format (If it can be loaded by ED, it is text-only). Absolute deadline for articles is 16 days before the meeting date. Contributions can be sent to: The Editor, AUG, PO Box 48, Boronia, 3155.

Membership and Subscriptions

Membership of the Amiga Users Group is available for an annual fee of $20. To become a member of AUG, fill in the membership form in this issue (or a photocopy of it), and send it with a cheque for $20 to:

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Public Domain Software

Disks from our public domain library are available on quality 3.5" disks for $8 each including postage on AUG supplied disks, or $2 each on your own disks. The group currently holds over 132 volumes, mostly sourced from the USA, with more on the way each month. Details of latest releases are printed in this newsletter, and a catalog disk is available.

Member's Discounts

The **Amiga Users Group** negotiates discounts for its members on hardware, software and books.

Currently, **Technical Books** in Swanston Street in the city offers **AUG** members a 10% discount on computer related books, as does **McGills** in Elizabeth Street. Just show your membership card. Although we have no formal arrangements with other companies yet, most seem willing to offer a discount to AUG members. It always pays to ask!

Back Issues of Newsletter

All back issues of Amiga Workbench are now available, for $2 each including postage. Back Issues are also available at meetings.

AmigaLink - Our Bulletin Board System

The Amiga Users Group operates a bulletin board system devoted to the Amiga, using the Opus message and conferencing system. AmigaLink is available 24 hours a day on (03) 792 3918, and can be accessed at V21 (300bps), V22 (1200bps) or V23 (1200/75bps), using 8 data bits, 1 stop bit and no parity.

AmigaLink is part of the world-wide Fido/Opus network of bulletin boards, and we participate in the national and international Amiga conferences. AmigaLink has selected Public Domain software available for downloading, and encourages the uploading of useful public domain programs from its users. AmigaLink is FidoNet node number 631/324.

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The Amiga Users Group accepts commercial advertising in Amiga Workbench subject to the availability of space at these rates:

Quarter page	$20
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Full page	$70
Double page spread	$120

These rates are for full-size camera-ready copy **only.** We have no photographic or typesetting facilities. Absolute deadline for copy is 16 days before the meeting date. Send the copy and your cheque to: The Editor, AUG, PO Box 48, Boronia, 3155, Victoria.

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Amiga Graphics and the PAL Television System

by Dennis Nicholson

This article is designed to be of interest to Amiga Desktop Video and graphics users who are trying to use the Amiga 1.4 PAL version to further their artistic talents. It includes reviews of (or should I say my own experiences with) several of the latest Amiga graphics related packages including **Deluxe Paint II** - the PAL version, **TV Text** - the PAL version, and **Butcher 2.0** - the PAL version. **Express Paint V2.0, Videoscape 3D, Caligari LMV, Sculpt 3D, Animate 3D, Silver, Digi-Paint, Digi-View** and a few others will also be mentioned.

A bit of background. For the last fourteen years I have been involved in the television industry as a film cameraman (cameraperson!). I'm currently working for Sixty Minutes. (Just as an added piece of trivia, three of the Sixty Minute crew members own Amigas). Yes, I did say "film" and not video, (plasticam). There is a difference, it's called quality! Mind you, I've used both mediums over the years and video is fine for News and your Willesee's, but when it comes to great images, film still can't be beaten. Pro video gear e.g; Betacams are still bulky, weighing almost ten kilos, (try carrying that on your shoulder all day!). A 16mm camera e.g; Arriflex SR is only six kilos. Try running in a riot situation with a Betacam! Drop a video camera and you'll be getting a second mortgage on your house to cover the repair bill. Try getting spare parts for a vidicon or CCD tube in Ethiopia! I've used two rubber bands to get a 16mm camera up and running.

Where video does shine is in post production, more about that later. On the other hand, video has virtually replaced Super 8 in the domestic area, where it can be used easily and cheaply by the budding home Cecil B.DeMilles.

One of my little business off-shoots is producing graphics for corporate, training and documentary film/videos. So, why did I purchase an Amiga? I couldn't afford a Cray! The 1000 seemed a Godsend. So with a second disk drive and 512k installed I began creating all those wonderful images. But now, fourteen months and $12,000 later, (yes, that's how much I've spent on the damned thing!), I'm now running 4 Megs with heaps of graphics related software and hardware.

As you all know the Amiga was designed in America, by Americans for the American market, and thus, any graphics facilties it was to contain were made to work on their television system, NTSC (Justly nick-named "Never The Same Color"). NTSC only uses 525 lines on screen compared to our 625 line system, (PAL), or more correctly, the German PAL system. (Seems somewhat ironic that the Amiga is manufactured in Germany for the world market, but that will change as of next year, all Amiga models will be produced out of Hong Kong, that's Commodore official!) Anyway, back to the NTSC problems ... the obvious happens when you show a picture designed with the American Electronic Arts Deluxe Paint software - you run out of lines at the bottom of your PAL screen. (I'm talking to the people with PAL "1.4 version" Amigas. If you are trying to dump the image to video you can't successfully use any other version).

So, when a job came along last year for me to produce 32 computer graphics for a "How to Wind Surf" film, it became quite a problem to manufacture the required full PAL screen images using DPaint (version 1), as the graphics had to end up on 1 inch video and be full screen. The end result WAS 32 Hi-Res sixteen color images ALL full screen. But the only way to obtain that result at the time was to Kine, (pronounced Kin-e) all the graphics. That is, I filmed the Amiga 1081 monitor with a 16mm camera. Running a camera at twenty five frames per second, (the Australian television standard), you are able to lock the phase bar out of the screen image. What's a phase bar you ask? Well, if you have ever photographed a television screen at a shutter speed faster than a 30th of a second and looked at the end result you'll know what it is. A black line appears across the screen due to the fact that your camera shutter has opened and closed faster than the television set is able to scan down its full 625 lines of image, so some parts of the picture are blacked out. By running a movie camera at twenty five frames per second the bar is stabilized and can be hidden at the top or bottom of the screen. Running at any other speed will cause the bar to "roll" either up or down the screen.

So, by zooming in the camera lens to by-pass the blank section at the bottom of the NTSC image on my monitor, and then designing the graphics to fit the remaining "TV Safe" area was the only way I could overcome my problem. The final image held up extremely well, even on a video projection system. But with tripping over tripods, darkened rooms and guessing exposures, it was a very messy way of getting the job done.

Deluxe Paint II was released late in 1986, with many vast improvements to its original version, but I still could not get around the full screen nightmare. Yes, it was possible to create paintings up to 1008 x 1008 pixels wide, which sounds impressive, but I still had no way of displaying such an image all at once. Even with going to the "Full Page" mode of 320 x 340, or "Full Video" 352 x 240 was still unacceptable. I tried everything, even shifting the screen with Preferences, but all to no avail. Let me just say here that to successfully cover a PAL television screen with a full-image picture you need a minimum of 352 x 288 pixels in Lo-Res.

A public domain "Show" command was even re-written to display full PAL images. This was a success and I obtained FULL screen images from Dpaint, (up to 704 x 562 pixels on the screen at once in Hi-Res, and not a border to be seen). But all I could do was "Show", I couldn't cycle the pictures, or get any of the other effects that I wanted.

Well, FINALLY a PAL version of Dpaint II has become available, though unofficially it seems. Version 256, as it's called, gives you the ability to paint and display PAL screen size pictures, BUT not quite! The original Dpaint I and II used a default screen size setting of 320 x 200, (I'll use the Lo-Res screen for this example). The PAL version uses 320 pixels across by 256 pixels down, thus adding 56 pixels to the bottom of the screen. Even with this extra area you still have a half inch border area running around the picture when you "Show All". You can get rid of it on your Amiga's screen by adjusting

your monitor's screen width and depth controls, but that still does not get over the problem of dumping the image to video, the border remains.

Cue Butcher! Now, if you are into Amiga graphics and are not familiar with Butcher by Eagle Tree Software, then you should be! Aside from Dpaint II, Butcher is the most valauble piece of software you can have when it comes to creating great images. If you have a copy and not an original then arrest yourself immediately. To use Butcher to its fullest you need the manual, and at under $100.00 Aus it is worth every hard-earned cent. Make sure you buy Butcher V2.0, not V1.0. The second release will knock your slippers off!

Using Digi-View, as I do constantly, (I'm not the world's best artist, so digitizing solves a myriad of creative hassles), I have always found it a slow and laborious task to "clean up" the Digi-View images in Dpaint. For example, grabbing a full color picture of a world map gives me 32 or 16 colors, depending on the resolution I'm using. But to extract certain unwanted colors and "clean" the image is timing consuming. Butcher allows you to add or delete the number of bit-planes in the original graphic, from 1 to 5. So, if bit-plane number 4 is an unwanted red, then you simply bring up the "Slice Density" menu and click on number 4. The red plane is taken out, but planes 1,2,3 and 5 remain. This technique is excellent for converting large bit-plane images to black and white, or color, outline drawings. But with Butcher V2.0, that is only the tip of the iceberg.

It's strongest asset, at least for my work, is its ability to do "Overscan", but not your normal NTSC Overscan. Taking the standard Amiga/Dpaint resolution of Lo-Res 320 x 200 pixels as our continuing example, the Overscan capabilities on most graphics software allows you to increase a 320 x 200 scene to 352 x 240 pixels, still 88 pixels short of our required PAL screen. Butcher's " verscan" can be customised by the user to fit a much larger image on the screen, thus giving full screen PAL screens, PLUS the ability to cycle. Mind you, don't expect to create a 1008 x 1008 image and be able to see it all on your TV set, it will still only show you a certain part of the entire image, but the part it shows WILL be full screen. Hitting the F5 key toggles in and out of Overscan. Hi-res pictures of 704 x 580 pixels are very easy to display. So now you can paint pictures in DPaint of larger sizes, (you still have to scroll around DPaint to paint all the edges), and then using V2.0 of Butcher display AND record PAL pictures.

But Butcher does not stop there, it gets better! It now has a "Drawing" utility added. A "Make Palette" requestor allows four cycling ranges, the same as DPaint. You can "Clip" any section or size of an image, that is, you can select any part and save it, alter it, print it large or small. An "Effects" menu has "Toner" for toning the image to any of the desired colors, "Pos-Neg" to reverse the image, "Antique" gives the picture that sepia look. Plus the ability to "Seperate" base colors, such as yellow, Magenta, Cyan, Red, Green, Blue. The on-screen colors can be "Complimented", "False" or "Pseudo". PLUS you are able to "Mix Pages" together. Convert to "Interlace" or "Non-Interlace". Change "Lo-Res Width" to "Hi-Res Width", or "Lo/Hi-Res to HAM" and reverse. A powerful effects feature on Butcher V1.0 was the abilty to "Mosiac" the image, that is, create every-increasing pixel-block sizes over the original iamge. Version 2.0 still includes this feature with several powerful additions. The "Mosiac" effect is not limited to block shapes, but you now have the choice of "Editing" your own shape, be it your initials or any other wild design you can come up with. These shapes are then mixed into the original screen image to create a "Mosiac". If you can't think of a mosiac shape to create you can use any one of the two dozen samples included on the Butcher disk e.g; Broken Glass, Shredded Wheat, Diamond, Knitted, Brick, Splotch, Tyre tread, Pebble, Tuning fork etc...

No other computer graphics software program under $15,000 has the abilty to do to an image what Butcher V2.0 can do. If you are serious about graphics on the Amiga BUY IT! (The Butcher disk is also touting version 33.56 of Workbench).

I consider Deluxe Paint II to be the pick of the graphics crop, but other graphics-related packages also have their place. For example the second version of TV Text, (V1.1), is now "PALized", but the half inch border still exists. To get around that you simply use the "Overscan-On" utility supplied on

PAR Software's Express Paint, (yet another paint program). Using this utility gives you the full-screen PAL on TV Text we artists want. But take care, using "Overscan-On" will permanently alter the Workbench settings of the TV Text disk. (Thanks go to David for that one).

With regards to Express Paint, version 2.0 is now available, which allows you to use 64 colors on the screen in Lo-Res. Yes, 64 not 32. There is a catch, however - your Amiga must be one of the later versions that can utilize the "Half-Bright" mode. (For more info on Half-Bright, see Amicus Disk 1). Express Paint's maximum page size has been expanded from 1024 pixels to a gigantic 8,192 pixels, thus allowing a larger canvas size than any current paint program on the market.

Where does this leave your Agnus (graphics) chip, well, bursting at the seams! Rumours have been flying for many months about a "Fat Agnus". The truth is that there is "Fat" Agnus and "Fat Agnus". The dear 'ol Agnus chip our Amigas contain can only address 512k of graphics information, (and with my Hi-Res PAL images using up to 200k per picture that does not leave much room for spare pictures or stencil and perspective options). With such a picture loaded, I usually only have 70k to 80k of Agnus left.

"Fat Agnus" has been rumoured to address 1 Meg, so doubling the graphics information that can be displayed. I want one! Two of the Amiga models currently available on the market, the 500 and 2000, do contain "Fat" Agnus chips, but it's only fat in the physical sense. It will not address 1 Meg, it is simply the old Agnus re-dressed into a square format. The reason for the new shape? It is easier and cheaper for Commodore to make them that way! But all is not lost, Commodore in Germany have CONFIRMED the birth of a new "Fat Agnus" that can address 1 Meg of memory. As yet there is no official word as to if and when the new chip will be available. Some people expect to see it in Australia mid-88. I will expect it when it arrives. Will it be able to replace the old Agnus in the 1000. Who knows? After completely re-configuring your circuit board and re-addressing all the chips it may be possible ... anything's possible. I think I'd prefer to run it in a 2000.

Moving on ... Caligari, that much rumoured animation package from Octree Software is just around the corner. Beta versions are running around New South Wales and Queensland, and the manuals have been printed. The domestic 512k version is hinted to sell for $400.00 Aus. But don't expect it to be any better than Videoscape 3D using 512k. Videoscape only really begins to show its true colors with 3 Megs. If you want TRUE 3D animation performance from either program forget your hard disks, 8 Megs and 68020 chips, they just slow everything up! Try using the programs in conjunction with a single frame video recorder. Mind you they don't come cheap. A professional Sony BVU, (Broadcast Video Unit), such as the 950p with single frame capabilities, begins around $21,500! (Videotape is extra!) Sony are releasing a domestic Video 8 single frame recorder. When? - Sony Australia don't know, or aren't saying. It won't be broadcast quality, but at least it will be a damned site cheaper, ($2,000, $3,000???), and will be great for test recording an animation sequence. Incidentally Videoscape 3D version 2.0 is not far away and it will allow for PAL animation.

Speaking of animation, have you used a public domain program called LMV, try Fred Fish disk No 73. LMV is a very clever little (13k) program written by Jim Webster in San Francisco. It allows you to store up to 100 Lo-Res (320 x200) paintings into RAM, depending on the memory you have available. Then it flips through the images at nineteen frames per second! (A 60fps version is happening as I write). Jim has sold the rights to Finally Software and it is to be released in November under the name "Ani-motion". I have used Videoscape 3D to generate 3D "flying" images, then transfered them to LMV and combined them with DPaint artwork for final projection. LMV3, a later version, allows you to cycle the images as they run in real time. Pretty impressive stuff!

Prism! by Impulse Inc, was the first paint program designed to use all 4096 colors on the screen, (HAM mode). Poor old Prism! was quickly surpassed by the Digi-Paint release. (Note: Digi-View PAL is on the way, as is Digi FX!) Digi-Paint's improved algorythms allowed for a lot more on-screen effects, such as "Transparency" to mention just one, the ability to mix two HAM pictures together. Version 2.0 of Prism! will let you do what Digi-Paint does, but you can do it on a PAL screen!

Impulse Inc, are also soon to release their "Silver" software, a ray-tracing ANIMATION package. And speaking of ray-tracing, Sculpt 3D Version 2.0 by Byte By Byte is released, and their tracing animation pack, "Animate 3D" is not far away. Wouldn't it be great if you could design images in Sculpt 3D and animate them with Videoscape 3D? A utility has been written to do just that! A.C.S's Hi-Res Animation package "E/FX" has been purchased by Electronic Arts and is to be released as "Electronic Productions".

That's enough of the newer graphics packages for the Amiga, if the above hasn't wetted your PAL appetite then there is little hope!

Now, as mentioned earlier, video post production. I will attempt to describe the problems of using the Amiga for creating graphic images and dumping the final masterpieces to video. As I said, the majority of my work has been on the professional end of the spectrum. So why am I using a "toy" computer to produce graphics for the real world? Money, or lack of it. Let me give you a short example of the costs of producing an animated computer graphic.

But firstly, I'll take a step back to outline what animation is all about, i.e; the way Walt Disney has done it for the past fifty years. As mentioned previously, one second of film time on television uses twenty five frames, that is, twenty five pictures have to be drawn to make one second of time. (The US - NTSC system runs at 24fps, as do feature films, but PAL TV system uses 25fps). So, for an artist to sit down and draw twenty five pictures onto clear acetate sheets (cels) for a film running ninety minutes does take a little time, 90 minutes = 5,400 seconds x 25 = 135,000 drawings!

An animated television commercial, such as "Life Be In It" with "Norm" runs 30 seconds, thus still

requiring 750 individual drawings. Just to give you an idea of cost, six years ago such animation production was charged at $350.00 per second, so the final cost for 30 seconds was $10,500.00. Production costs have tripled since that time.

O.K, back to computers. Way back in the early 1960's, a smart young college professor, John Whitney, produced what are now to be considered the first computer animations. Basically they were strange shaped colored objects bouncing around the screen. The industry that arose from such beginnings has forged ahead at a great rate of knots to what you see today, - fantastic television and film computer graphics (just have a look at two films, "The Last Starfighter" and "Tron" if you want to see state-of-the-art computer effects). To create such visual delights, in the case of "Starfighter", it took a Cray X-MP computer, sixty four people, and eighteen months to come up with the final twenty five minutes of computer animation seen in the film. (Digital Productions who owned the Cray were charging $2,000.00U.S per second of screen time). Just to give you some idea of what's in a Cray, there are over 200,000 microchips, sixty seven miles of wiring that chew up 100,000 watts of power, a built-in freon cooling system to keep its circuit boards at a constant 68 degrees Fahrenheit. It weighs seven thousand kilos! Mind you it's a rather powerful little beast, (standing only six and a half feet high), the time it takes to perform its most fundemental operation is, wait for it, 9.5 billionths of a second!

To purchase the X-MP,(that's if the U.S. Defence Department let you buy one), will set you back about $20-25,000,000. (Note: A Melbourne-based production house has purchased a second-hand Cray for around $5,000,000 ... probably third-hand! But they couldn't afford to pay all that, so who has gone halves with them, our own Australian Government, for defence purposes of course! Our taxes at work! Can you imagine the Public Service running a Cray!?)

Back to more realistic bank balances and Amigas. There are several problems concerning the dumping of images to video. The major hurdle, NTSC, has now been overcome, and that should thrill a lot of the home video users. But there are still glitches for us "big video" users. If you have guessed it to be resolution, go to the head of the class. The old adage applies, you only get what you pay for. In the Amiga's case you get 640 x 400 resolution as the maximum. (Incidentally, it's not really 400, it's 200 being interlaced). As mentioned, broadcast television requires 625 lines, but graphics for that medium need to have a starting resolution of 700 lines to be in the race, double that and you can call yourself a professional.

So our low (bad) resolution is pretty obvious when compared to the big guns. But there are many and varied tricks that can be done with the Amiga and its graphics software to seemingly cheat on resolution.

No, I'm not going to reveal some magic glitch in the machine that allows you to run at 3000 lines, it's really a matter of planning and common sense as to how you manufacture your final graphic image. The following are only suggestions taken from much experimenting on my part to obtain a good on-screen look. And I'm not going to get into the technicalities of how an image gets to the Amiga screen, I'll leave that to the techos out there.

One giant mistake people tend to make when producing computer graphics is simply to make them look like computer graphics. Bright razzle-dazzle colors combined with fonts that read like a bowl of spaghetti. Imagine a bright red apple, (sorry), on a bright blue back ground with green Topaz 8 lettering on a Hi-Res screen - if the flicker doesn't get you your crossed eyes will. And they expect that to look great when it is dumped to video. There are some colors that just do not work well with the television system, red is the major offender. Next time you see any graphic on television using red lettering jump up and take a close look at it, the edges will most likely be bleeding into the surrounding picture area. Now, I can't tell you not to use red, but tone it down, make it pale red by using the Dpaint's saturation control in the palette.

All the graphics I do are not made by looking at them on the Amiga monitor, or any other monitor for that matter. I have a normal 26 inch Philips TV connected to the video-out socket on the back of the Amiga. What you see on the monitor as far as color and area size is about seventy five percent different from what you will get on a standard TV set. Monitors

hide a lot of problems that will show up on the television system. So by using a standard TV set as my "monitor", I'm actually seeing exactly what everyone else will see when the final product is aired. Also the physical placement of an image shown on a monitor using the RGB mode is different to that of the Composite mode. An image correctly centred on your monitor will be shifted to the right when screened on a TV set. This is due to the RGB-Composite signal differences.

Confused? Ok, try this, it will save you dragging your family's TV set into your computer den. Beg, borrow or steal (or purchase) a DIN cable, that's the rounded one with several pins on the inside of it (Look at the back of your machine, in-between the RGB connector and the video out socket, that's a female DIN plug). If you can't get to the back easily look up page 2-2 of the Amiga Users Guide and look at the lower photograph, they call it the "TV Modulator Connector". The plug has eight pins, but the cable I am using has only five pins on the DIN plug end. The other end of the cable has four RCA plugs attached, (Hi-Fi plugs), it is simply a matter of finding which of the RCA plugs is carrying the Composite signal out of the computer by plugging each one into the "Video In" socket on the back of your monitor while the "CVBS-RGB" switch on the front of the monitor is pressed in. One of them is bound to work. Bingo! With the switch on "CVBS" you are looking at Composite (TV) signals (I call it the WYSIWYG mode - What You See Is What You Get). With the switch in the "RGB" position you are back to your (pretty) pictures. By switching between the two images you will soon get to see the quality differences. And notice the image shift as mentioned above. Just remember the "CVBS" signal is what you will get when you dump to videotape. So painting or designing in that mode is highly recommended.

Which brings us to the "herring-bone" effect. Notice what happens where a light color meets a dark color - everything goes crazy, and all that will show up on video. By using the Saturation and Hue controls within Dpaint, you can significantly lessen this problem, but remember to be in the CVBS mode while you are adjusting your colors. So instead of a black and white font, make it light grey and dark gray. Or instead of red and blue, make it pale red and pale blue. What you should end up with is "less violent" image with little or no herring-boning. Looking at your completed image in RGB will most likely reveal a pale "water-color" picture, but forget RGB, it's the Composite image that you will record.

Not all herring-boning is fixed that easily, there will be some that will just not go away. But Dpaint II has a very powerful tool to rid us of this plight. It's called "Anti-aliasing" (the ability to smooth the rough or bleeding edges). Imagine a white straight diagonal line drawn across a black screen. The jagged edge of the line is very visible against the black background. Use the "Smooth" command found in the Mode Menu. By selecting a small brush and running down the length of the white line, the contrast between the two adjoining areas is reduced. Dpaint finds colors in the palette between the two bordering colors and paints the boundary in intermediate shades. "Smooth" looks at the current palette and finds the colors closest to the ones under the brush. So in this case it would paint a range of greys along the edge of the line. Use this technique while in CVBS mode and you will see the jagged edges and herring-boning disappear before your very eyes. But don't over-do it, otherwise your final picture will look diffused or out of focus.

Another problem with Amiga graphic-makers who dump their creations to video is that the majority of images I have seen are not correctly sized or centered for video/TV display. There is nothing worse than viewing lop-sided lettering, that is, lettering that is closer to one edge of the screen than the other. (I have yet to see one Amiga owner's monitor set to the correct TV standard setting. Most are usually under-scanned or over-scanned). Now don't let me tell you how to set your monitor, it's entirely up to you, but if you want to record your pictures to tape then you'll have to change a few things.

What you have to do is re-align your Preferences on your graphics software disk (whether it be DPaint, or whatever) to match the CVBS monitor mode setting. It's best to do all the following with a working copy, not your original.

With the monitor in CVBS mode, boot up your copy of Dpaint disk and get into Preferences. Click on "Reset All", this will reset your preferences back to the default Commodore settings, so you will have to do a bit of work fixing up your mouse, CLI and printer settings, etc. The surrounding border of the Preferences screen will be more to one side of the screen than the other. With the move gadget simply re-align the borders to get the best central position within the screen area and save those settings. This still may not be as accurate as you think. If you have fiddled with the monitor's Horizontal Centering knob and the other related knobs on the rear of the set, then the only successful way of finding your monitor's true centre is to have a standard TV set patched into the Amiga and split the signals between the two sets. This can be achieved by running a cable from the Amiga's video-out (RCA plug), to a video recorder (usually a BNC plug), then to a standard TV. You will then have to centre the image with Preferences while watching the TV set. Once centered you can re-fiddle your monitor controls to match the TV if you wish, but this will upset your RGB monitor settings. I'll leave it up to you..

To obtain the best possible results from Amiga graphics when dumping to video (for professional use) it is strongly recommended that a Genlock unit is connected between the Amiga and a Time Base Corrector (TBC), which is in turn hooked online to the video recorder. The Genlock and TBC will make sure that the image signals coming from the computer, as bad as they are, will at least lock all the timing signals together. A TBC will cost you $10,000 second-hand, and a Genlock ... well!?

How many Genlock's are touted to be available, well, at last count seven! Commodore's 1300 NTSC unit is totally useless to us PAL users. That leaves one other US unit, manufactured by Mimetics. The "Imagen" is a cartridge-based device that plugs into the RGB port and contains the appropriate RGB pass through. The unit is compatible with all Amiga models. Electronically, Imagen is said to have no vertical or horizontal image shift characteristics,

and is compatible with any external video source. Not bad for a unit with a US list price of $179.95.

Ariadne Ltd in the UK distribute a PAL genlock, which sells for around $1,500 Aus. This unit has been tested with pro video gear and its output signals are not exactly broadcast standard, about four out of ten, but for home use the unit is quite capable of good results. But over-priced.

The Germans and Austrians are all working on genlocks, but I'll reserve judgement until I lay my hands on one.

Neriki Australia, (Sydney), have been putting together a device almost since they first laid eyes on an Amiga. I heard that their "broadcast" demo unit (for the 2000) failed to impress a Queensland pro video operator recently, maybe my signals got crossed, or maybe theirs did!

David Broadbent, a local (Melbourne) electronics whiz has come up with a neat little unit called the Genlock 7843. (Am I allowed to tell the readers of this article, David, that the number refers to date of initial manufacture, backwards?) I have the honour of owning one of David's little creations, and to date it has performed exceptionally well. David is also working on a full broadcast unit, for which we video users are all eagerly awaiting.

Well folks, I must leave this article at this point, and I haven't even discussed "Forms In Flight", "FPic", "Pro Video CGI", "Calligrapher" or "Animator's Apprentice". Maybe it's because I'm still reading the manuals!

If you have any queries, comments, annoyances or video-related problems please feel free to contact me on (03) 288 7036.

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Developer's Corner

by Chris Tremelling

Since the Amiga comes in two flavours, ie: PAL and NTSC, any software developer should take care of one of the main differences between the two. This difference is the resolution or size of the screen. NTSC Amigas have a resolution of 640 by 200 pixels compared 640 by 256 for the PAL model.

The following section of code illustrates one way of determining the size of the screen and will work with Amiga DOS 1.1 and up.

The main program calls the function "open_lib" to open the libraries and then uses the GfxBase structure to determine the size of the "Normal" screen. Under 1.1 of Amiga Dos these variables were incorrectly set which is why we need to check the version of the Dos being used. Once the values for width and height are known you may use them in your own "OpenScreen" or "OpenWindow" statements.

The function open_lib first attempts to open version 33 of the Intuition library. Version 33 of Intuition is the current library supplied with 1.2. If the current version of the library is greater than or equal to 33, the "OpenLibrary" will succeed and Ver1_2 is set to TRUE.

If the "OpenLibrary" fails, then a second call is attempted which opens whatever version of the library is available and leaves Ver1_2 as FALSE.

The Graphics library is opened next so that we have a pointer to GfxBase and can check the screen size, other libraries may also be opened here for your own use.

Many thanks to Enno Davids for this example.

```
/*
* -- Sample Code to sense the size of the screen ----
*/

#include <graphics/gfxbase.h>
#include <intuition/intuition.h>
#include <stdio.h>

struct IntuitionBase *IntuitionBase;
struct GfxBase *GfxBase;

#define INTUITION_REV 33L
#define INTUITION_ALT_REV 0L
#define GRAPHICS_REV 0L

int Ver1_2;

main () /* MAIN */
{
  int width, height;

  open_libs();

  if (Ver1_2)
    {
      width  = GfxBase->NormalDisplayColumns;
      height = GfxBase->NormalDisplayRows;
    }
  else
    {
      width  = 640; /* must be 1.1 dos */
      height = 200;
    }

  printf ("The Screen is %d by %d pixels.\n",
          height, width);
}

/* open_lib */

/*
*------- Code to sense version of kickstart ---------
*
*
*-----------------------------------------------------
* Open all the libraries that we require. Note that
* there is now a test here for the use of WorkBench
* V1.2. This will prevent unexpected explosions of
* the system software when we look for the screen
* size.
*/

open_libs()
{

  Ver1_2 = FALSE;

  IntuitionBase = (struct IntuitionBase *)
    OpenLibrary("intuition.library", INTUITION_REV);

  if (IntuitionBase == NULL)
    {
      printf ("Try again ");
      IntuitionBase = (struct IntuitionBase *)
        OpenLibrary("intuition.library",
        INTUITION_ALT_REV);
      if (IntuitionBase == NULL)
        {
          puts("Couldn't open Intuition Library");
          exit(FALSE);
        }
    }
  else
    Ver1_2 = TRUE;

  GfxBase = (struct GfxBase *)
    OpenLibrary("graphics.library", GRAPHICS_REV);

  if (GfxBase == NULL)
    {
      puts("Couldn't open Graphics Library");
      exit(FALSE);
    }
}
```

==========

Games SIG Report

Well, what can I say? Not many rolled up to our first great meeting, but those that did participated well and were very enthusiastic.

Firstly we showed a display of a few of our favorite games and several people told the group how to get past those tricky bits of the game. Secondly, we had some questions and answers to help solve those little difficulties we all experience at one time or another. Finally, we had a lengthy discussion covering topics from buying games from the States to what's the all time favorite game!

So that's what you missed last meeting. At the December meeting, we'll be showing my long awaited new games from the States namely Test Drive, Terrorpods and Roadwar Europa (Roadwar 2000 sequel). So if you didn't make the last meeting, make sure you don't miss this one. Why don't you bring your favorite game to show the world? Hoping to see YOU there.

From the Organizers of the Games SIG - Luke, Anthony and Robert.

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Special Interest Group - Advanced Graphics

About 70 would-be graphics programmers and users attended the second SIG meeting. The discussion mainly hinged on what we wanted to achieve and how we were going to achieve it. It was agreed that we should concentrate on developing a set of graphics

primitives (putting a pixel point on the screen, a line, a polygon, a circle) which would provide a standard core in assembler, C and Modula-2. Then the SIG might well break up into several project teams concerned with developing application programs for ray-tracing, cartooning, CSG and wire framing. Or wherever our fancies lead...

The depressing notion that we might have to brush up on our berusted memories of mathematics (especially matrices) caused some lips to pale, but promises were given that general anaesthetics would be available for those in unusual pain.

To this end, our next meeting will hopefully feature Martin Gardner (523-6843) expounding the functions of the Blitter chip, Igor Alex-#? (technical joke, telephone number 579-3412) edfacing up to assembler, Steven Newnham (438-2801) enthusing about Modula-2, Enno Davids (583-5474) singing "I can C forever", Igor Metter (568-6382) being generally knowledgable and creative and Geoff Holden (211-0283) gamely trying to hold the whole singing and dancing act together.

In our efforts, we will be united by the one universal language of all programmers - Blasphemy...

A New Member's View
by L J Balent

My son and I recently attended our first Amiga Users Group meeting. For the uninitiated, the activities seemed confusing and overwhelming. Outside the lecture hall people buzzed around numerous stalls and terminals, while inside the hall others sat waiting for something to start. I didn't know what to do, I lost my son as soon as we entered the foyer and didnt know whether to sit inside and miss everything that went on outside or look around outside and miss what will happen inside, or try to find my son. I decided to join the activities around one of the tables to see what was going on.

I found myself in front of the public domain disk sale area. As I was unable to read the directory which described what was available, I decided to purchase a disk which had the directory on it. After having requested a copy and managing to wrench my son away from the games area, we went into the lecture hall for our first meeting. I found the video on graphics interesting and would have liked to see more, maybe it could be possible to hire the tape or have a copy made for future animation ideas. The rest of the meeting was informative, but I think more information on other Amiga group activities could have been included.

When we broke up to go to each activity group area, I decided to take my son to the newly formed group for Basic programming. Because of this, I was unable to attend other group activities. I suppose some form of minutes of group activities could come in handy for people who were either unable to attend or wish to skip class for other areas of activities. As I was not the only person there with their child in tow, I suppose a junior activity group could come in handy with say one of the brightest out of the group to coordinate any inquiries that the group members would have.

Upon arriving home I shoved my newly acquired disk into the Amiga to see why all these eager people were willing to part with their money for some software. Unfortunately this mystery eluded me. The disk loaded and when I called up one of the icons I was presented on the screen with some oriental characters. Not to be deterred, I called up another icon. This time it was definitely in English but the margin was in the middle of the screen, which made reading this like trying to read a jig saw puzzle. One last hope, I tried making a print out of the whole thing.

After a while, having tried everything, including wondering what my insurance would say if I told them that my computer fell on the ground by itself, I rang Geoff Sheil for help. Here I must say thanks to Geoff for all the help that he has given to me to appease my determination to gleam the information from the disk. However, after all I tried, in the end, the Amiga won out and I was presented with an icon with DFO: BAD, meaning the disk was not going to give up its secrets. As I said earlier, thanks to Geoff who on the following day came to my home and rectified the problem with the disk. I am waiting with baited anticipation for the next meeting when I will actually purchase some more disks and upon arrival back home will endeavour to run it.

Information for 'Faery Tail'ers
By Craig Hutchison
(After Three Weeks of Lost Sleep)

WEAPONS:	DIRK	USEFUL ITEMS:	GOLDEN LASSO
	SWORD		SUN STONE
	BOW....ARROWS		SEA SHELL
	MAGIC WAND		
	MACE		
MAGIC:	BLUE STONE	KEYS:	GOLD KEY
	GREEN JEWEL		GREEN KEY
	GLASS VIAL		BLUE KEY
	CRYSTAL ORB		RED KEY
	GOLD RING		WHITE KEY
	JADE SKULL		GREY KEY
ITEMS:	ROSE		BOOK
	HERB		WRIT
	FRUIT		GOLD
	BONE		SHARD
	STATUE		-TALISMAN-

AIM: To kill the NECROMANCER, who has stolen the TALISMAN, and has a strangle hold on the land of HOLM.

METHOD: By collecting artifacts, which are spread over the entire land of HOLM, and which allow you access to the Astral Plane, home of the NECROMANCER.

Playing the Game

WEAPONS: Will be self explanatory, a BOW needs ARROWS, etc.

ITEMS:
- SEA SHELL. Calls the Turtle.
- SUN STONE. Emits a bright burst of Light.
- GOLDEN LASSO. Tames the Swan.

MAGIC:
- BLUE STONE. Allows a character to Teleport from one stone circle to another, though at random.
- GREEN JEWEL. Provides light at night.
- GLASS VIAL. Increases characters vitality
- CRYSTAL ORB. Allows a character to see things which are hidden.
- BIRD TOTEM. Shows a map of the immediate area around a character.
- GOLD RING. Stops time for a short period.
- JADE SKULL. Kills all foes within the immediate vicinity.

ITEMS:
- 1x ROSE. ?
- 1x BOOK. ?
- 1x HERB. ?
- 1x WRIT. Given to a character by the king after rescuing the Princess.
- Many x FRUIT. Apples to take with you on your trek.
- Many x GOLD. Found lying around the countryside and in the pockets of defeated foes. Used to buy items of use.
- 1x BONE. Found lying atop the tomb of the old King.
- 1x CRYSTAL SHARD. Exchanged for a BONE, allows entry to the domain of the Necromancer.
- 5x STATUE. Found about the land, allows entrance to the castle of the Necromancer.
- 1x TALISMAN. Found in the Astral Plane,on the body of the Necromancer.

I hope I haven't given away too much.

Expansion Bus Problems
by Lester McClure

Some people have experienced difficulties with expansion boards on early versions of the Amiga 1000. The problems have been traced to PALs on the daughter board and the recommended solution is to replace these PAL chips or improve the grounding.

I experienced this problem with a 1 MByte expansion board I recently built from a kit. I have since tried the board on newer Amigas and it works perfectly. On my Amiga the failure mode is very predictable. When I run memory test programs supplied with the kit, it repeatedly fails in the same manner - always the same few memory locations and generally the same 1 or 2 bit corruptions. I have tried improving the grounding on the PALs on the daughter board but to no avail, I guess this means I'm up for a new set of PALs.

What I have found, however, may be of use to other Amiga owners who find themselves with the same problem. If my Amiga has been running for 15 to 20 minutes (with my memory board plugged in) and I turn it off for no more than 5 to 10 seconds and then turn it back on everything is suddenly O.K. The memory board will pass all diagnostic tests and runs perfectly for hours on end.

Rebooting the system does not cause any problems and I can even turn the Amiga off and back on, if I wish to use a different Kickstart. However, the problem re-occurrs as soon as the Amiga power is off for much longer than 30 seconds.

I cannot explain this situation but it may also work for others. I consider it only a short term 'fix' until I can arrange PAL replacements. It really doesn't worry me too much though, because once I turn my Amiga on it usually stays on for hours at a time.

Book Review
Reviewed by Geoff Holden

Advanced Amiga BASIC by Halfhill & Brannon
Published by "Compute" Publications, 1986
Price: $37.95

There is snobbery abroad in the land. Cogito ergo sum has been shortened to C ergo sum - I speak C therefore I exist. Never mind that the compiling and linking of C causes a Rip van Winkle appearance. Never mind the ultra-picky syntax. C is flavour of the year ... just as Pascal used to be. Meanwhile Basic soldiers on, unfashionable but a closet secret for many home programmers. I would agree that no commercial program should be written in Basic, unless it needed to have its source code reworked by substantial numbers of users. But for the fast and dirty trying out of algorithms, for the "I wonder if reigns supreme.

And Amiga Basic is a structured language which allows top-down programming, global and local variables, named procedures - all the things the theorists froth about. Be grateful, you lot! It may be slow in operation (painful in fact), but the source is easy to change and modify. And now there is a book which takes it seriously. There are quite enough Intro to Basic books around, thank you. This one takes the language and the programmer seriously. Nor is it a rewrite of the Amiga manual. It points out things that the manual doesn't, chides Commodore for mistakes like OBJECT.CLIP and has a really full discussion on using the Kernel libraries.

It deals with the graphics commands, BOBs and SPRITES (the weakest part of the book, I think), animation, speech, sound and music, library calls (over 60 pages of details), ISO printer calls, coping with the stack (valuable) and has lots of demonstration programs to try out. It does not teach you Basic, but if you want to use Amiga Basic properly, then start here. I am impressed.

Programming in C on the Amiga
by Lester McClure

Many people at Amiga User Group meetings have expressed an interest in learning to program their machines using C. This article outlines my experiences in doing just that. At the time I purchased my Amiga I had little knowledge of the C programming language. I was, however, experienced in the concepts of computer programming such as compilers, linkers and assemblers, etc. I have written programs to control micro-processor based systems, but almost exclusively in Assembler and not with multi-tasking operating systems like AmigaDOS. Over the past 6 months I have spent many hours reading books and writing small C programs in order to teach myself C. To people considering the same action I offer the following advice: If you haven't written programs for any sort of computer system before (and preferably other than in BASIC), you will find learning to program in C on the Amiga a very difficult task. But PERSIST - the rewards and sense of achievement are well worth the time and effort required.

Why C?

The C programming language is a natural environment for the Amiga. Much of the Amiga system has been developed in C (and its forerunner BCPL) and most of the documentation for the Amiga is expressed in C. It has become the major programming language for development of application software for the Amiga as well as for many other computer systems. There is also an increasing range of public domain software availabe with C source. These programs can often form the basis for developing your own applications and they certainly provide a wealth of information on the Amiga and examples of programming in C. The C

language is also reasonably standardised, programs written for one type of machine can be transferred to other computers, often with minimal changes. This does not of course apply to programs written to take advantage of the Amiga's specialised hardware and graphics display features.

Getting Started

The first requirement is quite obviously the C compiler. The original compiler available for use on the Amiga was from Lattice and has been upgraded since the initial release and is much improved. Much of the early public domain software was written for this compiler and some will only compile error-free with this compiler. An alternative is the Aztec compiler from Manx Software Systems. Early releases of this suffered from many bugs and I can recall this comment from our editor "Sure the Manx compiler generates smaller, faster code but I use the Lattice compiler because it works". The most recent release (3.40) of Aztec is much improved, I can highly recommend it even though it is a more expensive package. The Aztec compiler supports several different programming models and if 16 bit integers are used it does compile small and fast code. Several magazines have published reviews and comparisons on the two compilers (Amigaworld Nov/Dec 1986 and Byte Nov 1986), but these are now only of general interest as both products have newer releases.

C Reference Manuals

To learn to program in C, you will need a good C reference and perhaps a tutorial book if you are just starting out. The best C tutorial publication I have seen is 'C Primer Plus' (Sams) which has a novel light humorous approach. However, be VERY wary, the book is absolutely riddled with errors - mostly typographical. I still favour it over others because of its approach, but be suspicious of their examples if they don't seem to work for you.

When considering C reference books it is usual to recommend 'Kernighan and Ritchie', however, I believe an alternative is now available. I have recently purchased and can highly recommend 'C: A Reference Manual' by Harbison and Steele (Prentice - Hall). It has just been released as a second edition and I wish it had been available when I was starting out with C. The book is divided into two parts, which cover the C language and the libraries. Included is a chapter on the Proposed Draft ANSI standard and a full syntax definition for the C language. Each section of the book is logically structured with simple examples and cross-references to other related sections. It is well indexed and I have found it very easy to locate information on every area of C that I have had difficulty with. The book is NOT a tutorial and is not designed to be read from front to back - it is best kept on hand for when you need a reminder on syntax, structure or function definition. What appeals to me most about this publication is that it is not just another C reference book targeted at MSDOS machines. The book grew from an effort by the authors to write a family of C compilers for a wide range of computers, from micros to mainframes. The professional attitude of the authors is best summed up by an extract from the preface. "We assume that the reader is, or wants to become, a serious C programmer ..... In our view, serious programmers are more concerned with correctness and reliability than with programming speed. Their programs are meant to last a generation not a weekend. Their programming emphasizes clarity, maintainability and portability rather than clever tricks and the fewest number of source program lines."

Other C references I have found useful are:-

- BYTE magazine Aug and Sep 1983, which contained a special language feature on C with a two part tutorial. There is also an extensive C language bibliography with 100 references.
- AmigaWorld magazine, beginning with the Jul/Aug 1986 issue, had a multipart tutorial on C programming starting from basics. The final article (Mar/Apr 1987) introduced Intuition with a simple demonstration program.
- Amazing Computing has a series on the C language, beginning from the first issue.
- Compiler Manuals. I have found the AZTEC compiler manual to be an unexpected source of general C information. There is an excellent chapter on programming STYLE which I highly recommend to anyone, experienced as well as novice C programmers.
- Amiga Reference Manuals - The Addison Wesley set is the standard Amiga reference. Out of this set the two EXEC volumes and the INTUITION Volume are most needed, you can probably do without the HARDWARE manual. These publications cover quite well the V1.1 release of EXEC and INTUITION function calls and structures. I believe a set of disks was made available to registered developers which included documentation on the differences between V1.1 and V1.2 along with commented Include files.

There are other useful Amiga references worth having if you can spend a little more:

- Amiga Programmers Handbook Vol. I (SYBEX), this book is now in its second edition and has been updated to cover V1.2. This book covers the graphics and animation parts of EXEC and INTUITION. I have found it to be well indexed and provides a useful description of the Amiga structures as well as detailed information on function calls.
- Amiga Programmers Handbook Vol. II (SYBEX). I have not studied this book but I beleive it is the only alternative reference on libraries and devices and if Vol. I is any indication it should be worth investigating further, although it is quite expensive.
- The Amiga DOS Manual (BANTAM). This is the standard sort of DOS reference book that should have been supplied with the machines. It is now in its second edition and has been updated to cover V1.2. This book is actually the combination of 3 separate reference manuals:
  (1) Users Manual, which introduces AmigaDOS and describes all the CLI commands as well as how to use the supplied editors ED and EDIT.
  (2) Developers Manual, which describes how to set up a programming environment on the Amiga with a description of the standard Assembler and Linker. There is also an introduction to calling AmigaDOS resident library functions.
  (3) Technical Reference Manual, which describes the AmigaDOS filing system and data structures.

If your book budget is a bit tight, there is a single publication that could possibly cover what you need but not in as much detail as the above set. This is the recently released 'Programmers Guide to the Amiga' (SYBEX) by Rob Peck. It is quite logically set out with simple examples, and covers everything you are likely to need as an introduction to the Amiga. I understand the Developers SIG have considered it as a standard reference. (Anyone care to write a review?) There is one book on the Amiga I cannot recommend, that is 'Inside the Amiga' (SAMS), I became disillusioned very quickly with this publication because of the number of logical and typographical errors it contained. A second printing of this book is now available with a slightly modified title. Unfortunately this seems to be all that has changed. This book is basically a paraphrase of the original Amiga manuals (now Addison Wesley) with program examples added. However, many of the errors in the original manuals have also been transferred and new ones added along the way. An example of what I found disconcerting is (from p.109) "The Sizing and Depth Gadgets can be used for screens as well as windows. In fact, when a screen is opened, these two gadgets are automatically attached". This is simply incorrect, screens cannot be sized.

Other Resources

To make programming in C on the Amiga easier, I have added the following to my A1000:-

- External disk drive. Most compilers will work with a single drive system but do not leave you much work space on a disk and are clumsy to use. I chose a 5 1/4 inch drive simply for economy, as I intend to keep a broad selection of public domain software. I purchased a bare drive and built up my own interface (with assistance from Drac) and operate it quite reliably with Rod Irving $1 a disk cheapies.
- Expansion RAM. This is not really necessary but speeds up compilations enormously, 1 Mbyte is plenty (for now) and the virtual disk utility VDO: allows for system re-boots without losing files from RAM.
- Programming Editor. I found very quickly that Ed was not for me and I now use Lattice LSE. This supports multiple windows, menu or quick key selection of commands, keyboard macros and powerful search and replace commands. The public domain editor DME is another possibility.
- MAKE utility. As your programs grow in size it soon becomes logical to split them into modules. The MAKE utility enables you to define the dependencies between modules, so that only those modules that have been changed or are affected by others that have changed are compiled each time you re-generate your program. In order to guarantee correct dates on disk files it is best to have a hardware clock on your system if you intend to rely on MAKE.
- Debugger. For when things go wrong, AZTEC supplies DB, a symbolic debugger. This provides all the standard features of an assembly language debugger with the ability to symbolically reference addresses and functions. It also provides the facility to trace program execution and display on entry and exit from each fuction, the passed parameters and any returned values. I have found

this a very useful utility for chasing programming mistakes where re-examination of my source code does not explain what my program is doing.
- General Utility Programs. There are a number of helpful public domain utility programs I would be lost without:-

CONMAN - for command history and command line editing.
POPCLI - hot key newcli utility with screen saver.
DUIII - mouse driven general disk/file utility.
RSLClock - time/date display clock program that always finds its way to the front, with extra goodies like memory/disk free space display options.
VDO: - RAM resident Virtual Disk utility, survives most system crashes but really needs external memory to run well.

For further assistance there our the newly formed C Special Interest Group and other organizations have set up C tutorial groups - eg. MICOM (the Microcomputer Club of Melbourne). Our own AmigaLink Bulletin Board is another source of information, there is a C specific section there and I have found useful hints and 'bug' fixes in the various message areas. Some Universities and Colleges run short term C programming courses for quite reasonable rates. The course outline from Chisolm Institute (Pearcy Centre) for 1987 looked very interesting but I was too late to enrol.

Traps

What are the common traps and mistakes made when programming in C? For me it has been the following:-

- C is 'case specific'. i.e. Intuitionbase is not the same as IntuitionBase, MAIN() is not the same as main(). This may be obvious to some but I found I was accustomed to AmigaDOS not caring about upper/lower case.
- Wrong use or placement of ";". Some of my "if" and "for" loops did nothing because I had used a semi-colon as a line terminator instead of a statement terminator and had put it immediately after the closing bracket.
- Attempting to call a function that doesn't require parameters by simply having the function name without a pair of brackets. eg. Forbid; intead of of Forbid(); Personally I think the compiler should have complained - it didn't, and the function was simply not performed.
- 16 bit "int" with MANX. All calls to AmigaDOS EXEC and system libraries need to have integer variables cast to "long". Return values are also "long" and if assigned to an integer variable will not produce the desired result - probably give a value of 0.

Summary

For me, learning C on the Amiga has been a very interesting and worthwhile experience. I now prefer to program in C rather than assembler and I have started a project on the Amiga which will extend my programming knowledge far more than I could on any other machine.

Mousetrap - A Review

by Craig Hutchison

"Marvin isn't feeling too happy, his girlfriend Meryl has just left him for another mouse, saying that she thought Marvin would never amount to more than an artful cheese scavenger. Marvin however has other ideas.

In an effort to win back the affections of his childhood sweetheart, he sets out on his quest to amass a fortune, by doing what he does best, scavenging.

So, with your help, his long journey to fame and fortune, and hopefully Meryl, begins. Marvin's future is in your hands!!"

That's what I read on the back of the "MOUSETRAP" package while browsing the other day. It caught my attention immediately. It is a typical arcade game scenario. I tried it out on their AMIGA and it had me hooked!

Control of play is by either keyboard commands or joystick. Personally, I find the joystick rather clumsy, but others more used to this type of play would probably do well.

Mousetrap plays as any good arcade game should. It's totally memory resident, so you're not forever waiting for the computer to load the next scene from the disk, and also has some nice features. These include a freeze button (F-the phone rings), a quit button (Q-suicide), and an escape button (ESC-end game).

Although the game is easy to play, there are enough new challenges to keep any arcade player happy for hours. My only criticism is that it doesn't save high scores to disk. Your glory is but short lived. My next problem is how to cut a coin slot into the front of my AMIGA and make a bit of money out of my kids!!

In conclusion, a rather frivolous, but all over great Video Game.

Details: MOUSETRAP From Tynesoft Computer Software, Tyne & Wear, UK. Distributed in Australia by Ozisoft, 33/8-24 Kippax St, Surry Hills, NSW. My copy came from Ultraphase Computers, 296 Doncaster Rd, North Balwyn. Price $51.00.

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Public Domain Update

From no new disks last month to eighteen this month. Perhaps the proximity to Christmas has something to do with it.

Two disks have caught my eye this month - Fish Disk #109 with SimCPM (An 8080 CP/M Emulator) and UUpc (which allows you to hook your Amiga up as a Usenet node), and Amigan #9 with some memory and disk testing utilities.

The Amigan disks are distributed by the Amigan Apprentice and Journeyman magazine (available from our library). This now gives us three sets of public

domain disks, the Fred Fish disks, the Amicus disks (from Amazing Computing magazine), and the Amigan disks. We are also gathering quite a suite of local public domain programs, and as soon as we get some time, we'll catalog and distribute them too.

Fish Disk #103

AvlTrees — Library and test program that implement routines for creating and using balanced binary trees (AVL trees) held entirely in memory. Includes source

Calc — A programmable calculator program with similarities to a hand-held RPN calculator. Can run either interactively or in "script" mode by reading programs from a file. Version 1.0, shareware, binary only

Cref — A C cross referencer program. Includes source

DosKwik — A pair of programs which allow you to save files, or a group of files, to one or more floppies for quick loading (loading up a ram disk for example). Does not store files in DOS format, which is why it is faster. Binary only, shareware

IntuiDOS — IntuiDOS is a program to give improved control over, and handling of, the material on all diskettes in the 'CLI-area' by employing a multi-disk, scrollable directory and using Intuition techniques to issue DOS commands. Written in assembler. Binary only

MFF-Update — A text import utility for MicroFiche Filer (demo version released on disk 89) and updates to some PD disk library databases. Binary only

Pack-It — Pack-it will take all the files and directories on a disk and pack them into a single file for electronic transmission via modem. Binary only, shareware

Sol — Amiga version of solitaire game posted to usenet some time ago and modified to use Amiga console control codes in place of curses calls. Includes source

Fish Disk #104

This disk contains a copy of Glenn Everhart's large and powerful spreadsheet program called AnalytiCalc, submitted to me directly by Glenn for inclusion in the library. Source and documentation is included on the disk in arc'd form because it otherwise would not all fit on the disk.

Fish Disk #105

AsmProgs — Some misc assembly tools, programs, etc. "AsmFilter" (actually in AmigaBASIC) turns the output of the Metacomco disassembler into a file that can be re-assembled. "AddKickMem" adds the KickStart memory to your free memory on an Amiga 1000 with Kickstart in ROM. "Clear" fills unused areas of memory with a specific byte pattern. "L" is a replacement for the BCPL "list" program, but with some graphics enhancements. "SharpFont" is an 8 pixel non-proportional font. "Stack" is a replacement for the BCPL stack program. Includes some source

BasicProgs — Some more AmigaBASIC programs. LeastSquare solves least squares problems and graphs the results. Curves is a demo of one use for LeastSquare (find curves to fit a set of points). Freud is a Freudian analysis program. Includes source, needs AmigaBASIC from Extras

Bison — A replacement for unix "yacc" command. This is from the GNU (GNU is Not Unix) effort, and was obtained from the Free Software Foundation. This is an update to the version on disk 51, with some more bug fixes provided by Fred Walter. Includes source

DrunkenMouse — Another cute program in the tradition of "display hacks". Includes source

FlamKey — Installs a little key on the WorkBench screen title bar, and then waits in background until somebody clicks on the key. When activated, allows the keyboard and mouse inputs to be locked out until a password is entered. Shareware, binary only

GravityWars — The object of this game is for one player to hit the other player's ship with a missle, before being hit yourself. The ships and planets don't move, but aiming the missle in the presence of gravity fields and black holes makes hitting your target difficult. Version 2.0, shareware, binary only. This is an update to the version on disk number 84

IPo2C — A utility to write a C-language definition of the current intuition pointer to a file, which can then be used in a program via SetPointer to mimic the intuition pointer. Includes source

Pere-et-Fils — Example of creating and using reentrant processes. Includes source

Record-Replay — A program that records a sequence of mouse and keyboard events as they occur and stores them in a file. The file can be played back to cause the same sequence of events to occur again. Very useful for creating demonstrations of programs or documenting repeatable bugs. This is version 2.0, an update to the version on disk 95. Shareware, binary only

Fish Disk #106

FuncKey — A shareware function key editor, submitted by the author for inclusion in the library. This is version 1.1, an update to the version on disk 89. Binary only (source available from author)

MoreArt — A small selection of some additional

QuickFlix	Amiga artwork submitted to me since the last "art" disk An IFF slideshow and cel animation program that takes full advantage of the Amiga's multitasking operating system, supports all the graphics modes, can run with internal timing or be triggered by an external source, caches images in memory to achieve rapid frame rate, etc. Version 0.13, binary only, shareware
RistiNolla	A Finnish game. The name means something like CrossZero, and is also called Go-Moku. Version 1.0, shareware, binary only

Fish Disk #107

Csh	Version 2.07 of Matt Dillon's csh like shell, modified for Manx C. Includes source
Diff	A file comparison utility, similar to other common "diff" programs. Includes source
ProSuite	This is the Amiga Programmers Suite Book 1.01. The suite provides example code of facilities that every programmer needs (such as FileIO Requester), provides examples of new facilities (such as XText and DoRequest), and provides a tutorial on how to program the Amiga. Includes source
SVTools	Some additional useful tools from Stephen Vermeulen. Includes a new version of Vnews, sit, setstack, retool, memlist, fragit, and yoyo. Includes source

Fish Disk #108

AList	A directory listing program based on Dave Haynie's LD4 program, with extensions and enhancements. Includes source
DirMaster	A very nicely done shareware disk cataloger, submitted by the author for inclusion in the library. This is version 1.0b, an update to the version released on disk 89. Binary only
Dots-Perfect	Printer driver for an Epson MX80 printer with the Dots-Perfect upgrade kit installed. Includes source
MonIDCMP	MonIDCMP lets you monitor the IntuiMessages that pass through an IDCMP window. It prints the message class, mouse coordinates, qualifier values, and other useful information when appropriate. Great for debugging applications and for snooping around in the inner workings of other programs. Includes source
PrintPop	A utility to enable the user to send some common control settings to the PRT: printer device. When installed, a left-amiga F1 sequence will pop up a small window with various options. Includes source
Sectorama	A program designed to help Amiga users recover lost or damaged data from floppy or hard drives, or to repair a damaged volume. The author wrote this out of frustration with existing tools when he had multiple hard disk drive failures over the course of several months. This is version 1.1, an update to the version on disk 102. Binary only
Tek	An enhanced version of Dave Wecker's vt100 (v2.6) which includes emulation for a Tektronix 4010/4014 graphics terminal. This is a much improved version of the Tek4010 program from disk number 52. Includes source
Zoo	A file archiver, much like "arc" in concept, but different in implementation and user interface details. Includes some nice features that "arc" lacks (such as file/path names up to 255 characters in length). This is version 1.42B, an update to the version released on disk 87. Binary only

Fish Disk #109

Machine	A neat new animation from Allen Hastings
SimCPM	A CP/M simulator for the Amiga. Simulates an 8080 along with H19 terminal emulation. Includes source
UUpc	Version 1.0 of a suite of programs that will allow you hook up your Amiga as a usenet node. Includes source

Fish Disk #110

A68k	A 68000 assembler originally written in Modula-2 in 1985 and converted to C by Charlie Gibb in 1987. Has been converted to accept metacomco-compatible assembler source code and to generate Amiga objects. Includes source
Pdc	An optimizing C compiler for the 68000 processor. This is an update to the version first released on disk 53, though apparently not based on the code from that disk. Major porting work was done by Jeff Lydiatt to get it to the point where it would compile and execute simple programs on the Amiga. This version now generates metacomco-compatible assembler source code, which can be assembled by the assembler also provided on this disk and then linked by the freely redistributable linker "blink" (also provided). Includes all compiler source and some library and startup source code. Requires amiga.lib from developers kit to generate complete running example executables

Amigan Disk #1

Dpslide	A utility for viewing IFF format pictures
MicroEMACS 3.6	A full-screen editor
Screendump	A screen-printing program
TrueCIO	A C routine to give true one-character-at-a-time I/O to Lattice C for the Amiga

Amigan Disk #2

Hack v1.03D	A Dungeon adventure. Graphic icons replace characters in this version

Amigan Disk #3

C-Kermit	A file transfer protocol. Includes server mode

Amigan Disk #4

Make	A software development utility
Blink	A faster replacement for ALINK, the Amiga linker
PopCLI	Blanks the screen when not in use and hotkeys a CLI on demand
IconTools	A set of four utility programs. ZapIcon lets you take a Deluxe Paint Brush or an Aegis Images window and turn it into an Icon. IconExec ties an icon to a specific command. SetAlternate allows you to give the icon a new image when it is selected by a mouse click. SetWindow allows you to set up the output window your CLI program will use when executed from WorkBench
Arc	File archiver, compatible with PC ARC
FixObj	Fixes brain-damaged object files downloaded with XMODEM
Tsize	gives you a listing of the number of bytes used by each directory on a disk
Monopoly	The board game, in ABASIC

Amigan Disk #5

FastChop	Faster program to replace FixObj (from disk #4)
SecMap	Displays a sector allocation map of a disk drive
Clue	The board game
Missile	A missile defense game, in assembler
MemWatch	Background program which 'guards' against low-memory trashing. Useful for development
Clocks	Various computerized timepieces
MemGrab	Allocates all available fast memory. Useful for taming poorly-written programs that don't know the difference
Scrimper	Perry Kivilowitz's famous screen dumping utility
Juggler	Fantastic ray-traced animation
WBrun	Fakes programs into thinking they are run from workbench
MegBoard	Instructions on building a 1-meg memory expansion board
Stat	Replacement for the AMIGADOS STATUS command

Amigan Disk #6

Larn	Amiga port of the UN*X game, with graphics. Very similar to HACK

Amigan Disk #7

RSLClock	Clock program that gives many other stats
VidTex	Program to display compuserve graphics files
Tracer	Ray tracing program by Dave Wecker
Zoo	File archiver
LoanInfo	Loan amortization aid
Copy	Replacement for AmigaDOS COPY command
Asm68k	68000 Assembler for Amiga
NewZap	File zapper utility
KeyMate	Keyboard layout map for Flight Simulator
Arc022	File archiver
Blitz	Fast file browser; a very fast file browser -- indeed, a blindingly fast file browser
Batcher	Removes need to type 'EXECUTE' before batch file names
Ing	Just for fun

Amigan Disk #8

Amiga HACK vers 1.01 source code, TEXT version only

Amigan Disk #9

Rot	A 3-D object editor which also animates
Melt	Tilt, Flip and Melt your WorkBench screen. Blow your non-Amigan friends' poor little PC brains with these
Tilt	
Flip	
mCad	A shareware object-oriented editor for use with computer-aided design
SunMouse	Makes your Amiga's behave like that of a Sun (or Apollo) workstation. If you move the mouse pointer into a window and type, that window becomes active
Fonts	The fonts described in Amigan Apprentice & Journeyman Volume II, number 2. A must for desktop publishing
csDBMS	A simple database manager
Mandala	produces music with pretty pictures
Guesser	A fill-in-the-blank game
Show	A 6600-byte executable which will display any IFF image
BlitzFont	Claims to speed up text output to a CON: window by a factor of up to six
ConMan	An improved console device that gives you command line editing
Automata	In modula-2, this program create some of the self-replicating cellular automata first described back in the early fifties by John van Neuman
Form	A printer text formatter

Amigan Disk #10

PopCLI III	A new and improved version of PopCLI, now runs as a background task, using CBack.o (also on this disk)

CBack.o	A replacement (when you link) for C.o in Lattice V3.10. It allows you to run programs in the background. As used in the new PopCLI III and MemWatch
MemWatch	Sits in the background and tries to catch random stompings on low memory in the Amiga. If it can, it repairs the damage and taps you on the shoulder
PrtDrvGen	Generates custom printer drivers
Menus	Takes a text specification and generates an Amiga menu
Indent	A pretty primitive pretty-printer for C. Makes your indentation style consistent and finds unmatched ()'s and {}'s
Diagnostic	Test your Amiga's memory and disks
BlitterLab	A portable laboratory for playing with the Blitter
IntuiLab	A few routines for manipulating windows and screens so you don't have to re-invent the wheel
Bobs	Demonstrates Bobs and Sprites
Xplorer	Mucks about in the system, also demonstrates Assembly macros and how to call routines
Icons	Some prettier replacement icons for use with common programs

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WordPerfect Ain't Perfect

by Peter Jetson

A funny thing happened to me on the way to doing the newsletter this month. You see, it was supposed to have been done on the Amiga, using WordPerfect. The trouble is, WordPerfect ain't.

About four weeks ago, I went along to an Amiga dealer, and in exchange for $510, I walked out with WordPerfect for the Amiga. I had hoped that I would get a few weeks to play with it, then put it to work on this newsletter. Unfortunately, the more I played with it, the more I was convinced that there was something terribly wrong. Doing some things locked the machine up, other things just didn't work right.

After seeing so many glowing reviews and testimonials in the computer press, I decided that there was something wrong with my Amiga. (Even though all the programs I ran on a day to day basis performed flawlessly, I reasoned that since no-one else had any problems at all with it, the fault must be with Ami.)

Those of you who have been with the club from the beginning might remember that I have removed my 68000 and installed a 68010 for the slight performance upgrade it gives. I have also installed a home-brew KickStart in ROM modification. I reasoned that most reviewers would have stock standard machines, and that I better return my machine to normal. First, however, I visitied Drac with WordPerfect, just to see what it would do on another machine. Although he also has a 68010, the program ran much better on his machine that mine, still causing me to blame my machine. So, the Amiga gets opened up again, and back in goes the 68000.

Well, that improved things quite a bit, but there was obviously something still amiss. I began to suspect faulty memory, and set about thinking how a memory test program might take over the entire Amiga to test ALL the memory, not just the free list. (As an aside, I've worked out how this might be achieved, and in due course, I'll write the program.)

By now, two weeks had passed, and WordPerfect still wasn't in any condition to make a newsletter. In desperation, I rang SourceWare in Sydney (the Australian distributors) and asked them if there had been any upgrades released. After a few questions from them about where I had purchased the program, whether I'd sent my warranty card in, and the release date of the program (this is on the Help screen), they informed me that any WordPerfect with a release date before September was fataly brain-damaged and would not work. They asked me to send the disks back to them and they would upgrade them.

After I got off the phone, I thought about this and became furious. I'm sure the Trade Practices Commission would love to know that dealers are selling non-functional programs. Unfortunately, the dealers do not know, because SourceWare hasn't told them.

I've also had a few trials and tribulations with WordPerfect and SourceWare since then, and the bottom line is that this newsletter was not done with WordPerfect. You see, the upgraded disks took a week to get back here, even though they suggested I send them up over-night freight, and they'd return them the next day. Then, two of the four disk set were unreadable due to disk errors. Boy, was I angry with the whole bloody thing then. I faxed them a letter explaining my problems and angrily requested that ring or fax me, and send replacements right away. No answer after four hours, so I faxed again. And again a few hours later. At this stage, WordPerfect had cost me a few weeks of stuffing around, five phone calls to Sydney, overnight freight and three faxes.

Finally, they faxed me back, and I got new disks two days later. However, they only arrived a week ago, and there wasn't enough time left to learn enough about WordPerfect to do the newsletter.

Also, there is apparently another upgrade on the way from the USA that fixes a few more problems. SourceWare have promised to ring me when they arrive so I can get another upgrade, and have apologised for the stuffing around.

It's not the stuffing around, disk errors and upgrade delays that is really bothering me. The problem is that there must still be faulty WordPerfects on dealer's shelves. People are going to buy these and probably have the same problems that I had.

By the way, if you **do** decide to buy WordPerfect, make sure the dealer got it from SourceWare. Why? SourceWare are **NOT** supporting any copies not purchased through them. That is, if your dealer "back-doored" the package direct from the USA, SourceWare will have nothing to do with it. That is their right, since they made nothing out of the sale, but that leaves the purchaser with real problems.

So, maybe next month the newsletter will become WordPerfect. I'll let you know.

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In the event of my admission as a member, I agree to abide by the rules of the Association for the time being in force.

Club Use Only	Date	Paid	Rcpt #	Memb #	Card Sent

Note the change of date and venue

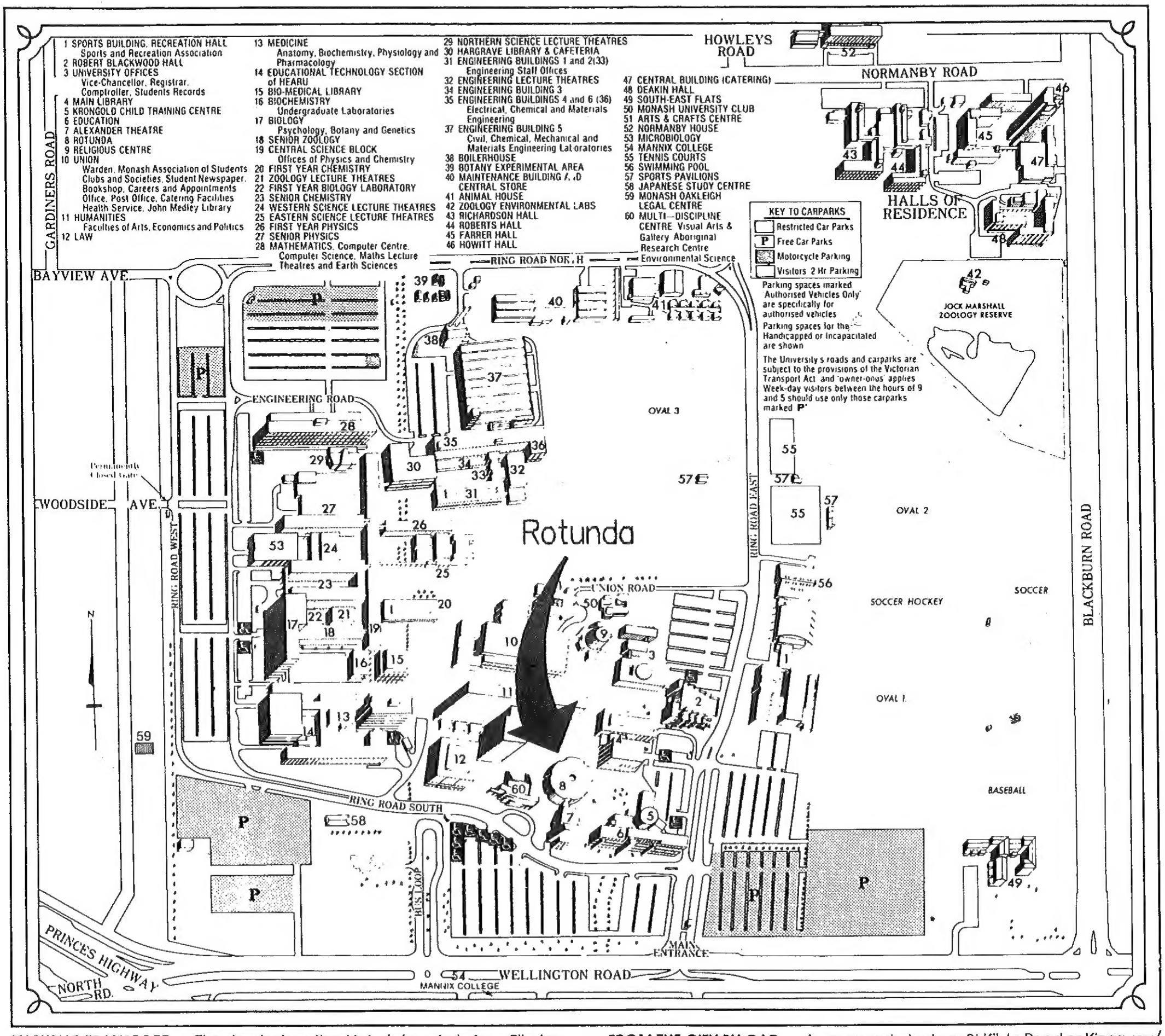
The December meeting will be held on SATURDAY, December 12th at the Rotunda, Monash University, Wellington Road, Clayton

For various reasons, we've had to bid Victoria College a goodbye, and we've booked in at the Rotunda at Monash University. We realise that we are moving further away from the city, but we couldn't find any other suitable premises. Come along to the meeting and make constructive criticism if the move doesn't suit you. We regard the December meeting as a kind of a trial of the new meeting place.

Monash University is in Wellington Road, Clayton. See Melways Map 70, reference F10. Melways map 84A shows the University Campus in detail. I've drawn a huge arrow on the map below to show where the Rotunda is. Be careful with parking until we sort things out - take note of parking signs or risk a parking ticket.

We won't be having a formal January meeting, instead we'll have another Barbeque, like last year. Look for full details in the next newsletter.

Remember, the meeting is on the second SATURDAY, not Sunday.



BY PUBLIC TRANSPORT . . . The simplest method is to take a train from Flinders Street or Loop stations on the Dandenong/Pakenham line to either Huntingdale or Clayton. Buses run from these stations to the campus or there is a taxi rank at Clayton. With suitable connections the trip takes about 45 minutes — but it can take longer! An inner neighborhood ticket will take you all the way via Huntingdale station and the bus, but you will need to purchase a comprehensive ticket for the trip via Clayton, which encompasses two neighborhoods. The campus is also served by buses from Box Hill, Blackburn, Belgrave, Chadstone, Jells Park-Glen Waverley, Dandenong-Mulgrave, Oakleigh and Elwood.

FROM THE CITY BY CAR . . . An easy route is along St Kilda Road or Kingsway/ Queens Road and then on to Dandenong Road. The campus's tall Menzies Building comes into view a kilometre or so before the left turn into Wellington Road on which the main entrance is located. Allow 40-50 minutes for the trip. Drivers should note that restrictions apply in some car parks weekdays 9 a.m. to 5 p.m. and fines **do** apply. There is ample unrestricted parking and, closer to buildings, designated two hour visitor car parks — check the map or ask at the Gatehouse.

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